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DEFENSE SYSTEMS 1 MANAGEMENT COLLEGE



PROGRAM MANAGEMENT COURSE INDIVIDUAL STUDY PROGRAM

A TEST OF THE EFFECTIVENESS OF TIME
MANAGEMENT TRAINING IN A DEPARTMENT
OF THE NAVY PROGRAM
MANAGEMENT OFFICE (PMO)

STUDY PROJECT REPORT
PMC 77-1

Frank J. Halligan
GS-14 DNC

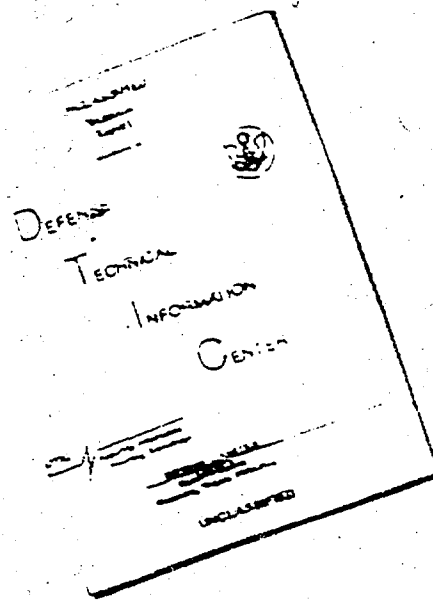
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MANAGEMENT TRAINING IN A DEPARTMENT
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MANAGEMENT OFFICE (PMO)

Individual Study Program
Study Project Report
Prepared as a Research Paper

Defense Systems Management College
Program Management Course

Class 77-1

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Frank J. Halligan
GS-14 DNC
May, 1977

Study Project Advisor
Lt. Col. Don Fujii, USAF

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EXECUTIVE SUMMARY

An experiment was conducted to determine the effectiveness of time management training within a Navy Program Management Office (PMO).

The experimental group consisted of 33 participants -- all volunteers -- from the PMO. Eight participants, also volunteers, from a Navy support project office composed the control group. The participants in both groups were categorized as professionals (engineers) or non-professionals (financial management specialists and secretaries).

A Time Management Survey and a Time Management Questionnaire were used to collect estimates of time spent on nine work activities, and attitudinal measures, respectively. The survey was administered before and after the experiment to both the experimental and control groups. The questionnaire was administered, after the experiment, only to the experimental group.

The experimental manipulation consisted of a list of Time Management Tips, along with three worksheets which required the participants to a) list their life goals, b) to order those goals according to a system of A, B, and C priorities, and c) to list the specific activities that would lead to the attainment of each stated goal. A critical aspect of the manipulation was the requirement to prepare a daily "things to do" list.

The planned analysis called for a series of t-tests for related groups. However, because the survey and questionnaire were administered on an anonymous basis, and because several of the participants in the experimental group misinterpreted the instructions, the survey data were analyzed by a series of t-tests for independent groups. Specifically, the mean time that the experimental group allocated to a work activity was compared against the mean time that the control group allocated to the identical activity. Comparisons were made between the pre-experiment means of the experimental and control groups, and the post-experimental means for the two groups.

The results showed that the experimental and control group means were significantly different for several of the work activities, such as "correspondence preparation." Also, three out of six trends were in the predicted direction. The professionals appeared to benefit more from the time management training than did the non-professionals. The questionnaire data indicated that 76% of the experimental group participants found the training to be useful either on the job or at home.

In summary, the results of the experiment indicated that the application of time management principles was perceived as being helpful in a PMO, and should be given serious consideration as a management tool.

ACKNOWLEDGEMENTS

The author acknowledges the assistance of Lt. Col. Don Fujii. His expertise and sincere interest aided in both the conception and completion of this study.

Likewise, without the cooperation of all personnel of Naval Sea Systems Command, PMS-395, who voluntarily involved themselves in this project, I could not have completed this study.

Special thanks is extended to Capt. John Eshman who gave his initial approval and cooperation so that work on this time study project could proceed within the PMS.

For typing and editing this paper, and providing encouragement to see it through to its completion, I wish to thank my wife, Barbara.

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SECTION I

INTRODUCTION

Time

It is the universal lament of modern life: "I haven't got the time." The pace of living has accelerated so rapidly that we view time as a very precious commodity. The contemporary manager who is responsible for the maximum use of his own time, as well as the successful expenditure of the time of his subordinates, is acutely aware of the time crunch. The attache case stuffed with sandwiches for the man too busy to leave his desk, and the file folders crammed with after-hours work that will be laid out on the family dining room table are two tangible examples of the problems created by the lack of time. Surely there must be better ways of dealing with the problem of insufficient time. The implementation of time management principles may be one of those better ways.

Time Management

Time management means what it says -- the proper budgeting of one's time within the parameters of job demands and personal goals. The principles of time management are based on the individual's perception of goals -- lifetime and employment goals -- coupled with his own judgement of how he can best achieve those goals.

Obviously, an individual's idea of what is important in his life, and the goals he intends to realize in his life, are highly personal. His view of his job is colored by his own perception of the job itself, and his understanding of what is demanded of him by the organization. From these perceptions, he infers how he can be most effective in the performance of his duties. (2:101)*

Time management principles demand that the manager, and indeed, the worker, first understand what he is expected to achieve. People have to delineate the goals they feel are most necessary to their jobs and to their lives. They must also define the means they must utilize to attain their goals. (7:17)

Purpose of Study

The purpose of this study was to extend the findings of two previous DSMC student reports. Laposata (5) used a time log, and discovered that a particular Army program manager spent an average of 10.5 hours per day on the job, and took home an average of 1.47 hours of work each night.

Brostrom administered a questionnaire to (a) program managers and deputy program members attending an Executive Refresher Course at DSMC, and (b) students in Program

*This notation will be used throughout the report for sources of quotations and major references. The first number is the source listed in the Bibliography. The second number, when used, is the page in this reference.

Management Course (PMC) 76-2. (1:39-40) He obtained results that substantiated Laposata's findings. Brostrom also conducted an informal time management training program with volunteers from PMC 76-2. The favorable reactions of the participants indicated that a similar program should be of practical value in a real world program management office.

Therefore, the primary purpose of this study was to implement a time management training program in a naval program management office, and to determine its impact upon the use of time by the participants. The introduction of the time management program was not a whimsical exercise. Instead, it required the commitment of all involved. It was hoped that time management principles, once they were completely understood and implemented, would become a genuine technique for assisting managers and staff members to perform their jobs more effectively.

SECTION II

METHOD

Subjects

There were 33 participants in the experimental group. They were members of the Deep Submergence Systems Project (PMS-395), Naval Sea Systems Command, who volunteered to participate in the time management study. The group was comprised of 22 engineers, five financial management (FM), specialists and six secretaries.

The control group had a structure similar to that of the experimental group and was comprised of volunteers from a smaller Navy project office. There were three engineers, three FM specialists, and two secretaries.

The purpose of the control group was to provide baseline measures that would permit an evaluation of the experimental group measures. No information was given the control group concerning the principles of time management. They were issued a time management survey identical to that received by the experimental group at the commencement of the study.

Instruments

A briefing memorandum, a time management survey, three worksheets, and a time management questionnaire were used to introduce, conduct and measure the results of the introduction of time management techniques.

Briefing. A memorandum (appendix A) was sent to all potential participants in the project management office to explain the time management principles in some detail. It was circulated prior to a visit by the author for personal, one-on-one briefings. The memorandum defined the notion of goals -- the fact that goals are those ends which any person hopes to achieve ultimately in his career. It also differentiated primary goals from lesser goals. An

explanation of the method of determining primary goals (setting goals by a system of priorities) was clarified by the notion of tasks. (6:48)

Time Management Survey. (Appendix B) Since it is necessary to first understand how the participants used their time before the introduction of time management techniques, a survey form was designed and administered to determine how much time the participants were putting into various job activities.

The survey was comprised of questions that asked for an approximation of time spent on various tasks associated with performing duties within the project management office. Also, the participants were asked to give an estimate of how much time they should ideally spend, each day, in their jobs. This survey was presented to the experimental group before and after it received tips on effective time management. The survey was also given to members of the control group.

Worksheets. Three worksheets (Appendices C, D, and E), all highly personal in nature, required the participants to think deeply about their job goals within the project management office, their own lifetime goals, as well as their career goals, and to understand how these goals meshed with

each other. These worksheets were not collected, as they were designed for, and given only to, the study participants.

It was hoped that by completing the sheets, the participants would examine their perceptions of their goals and -- for some -- to note for the first time in their lives the ways in which they were spending their time.

Time Management Questionnaire. (Appendix F) This questionnaire was designed to obtain measures on the participants' opinions on the time management program. It was given to the experimental group.

Procedure

General Design. The basic design was a static-group comparison. The experimental group received a list of time management techniques, while the control group did not receive the list. With this design, there is no formal means of certifying that the groups would have been equivalent had it not been for the experimental manipulation (introduction of time management techniques). Therefore, the experimental group was given the time management survey twice to obtain measures on how the participants used their time before and after receiving the time management techniques. The control group was also given the same time management survey twice to obtain pre-test and post-test measures.

Sequence of Events. within a project management office, there exists a cross section of society, as the members vary in educational background, age, sex, etc. As a result, lifetime goals and the perception of job-related goals also varies. The office is a microcosm of the working world itself. The successful introduction of time management principles into such a diverse social structure hinges directly on the ability of the experimenter to present the program so that every participant can relate it to his own needs.

After receiving permission from the project manager to conduct the study, the author presented the experimental group with a memorandum that explained the purpose of the project (Appendix A). The memorandum invited interested members of the project management office to participate in a program that was designed to determine whether time management techniques could be beneficial. The program was not imposed. Participation was entirely voluntary, and the assumption was made that those who involved themselves were either interested in improving their working habits or perceived a conflict between demands and the time available to meet those demands.

The memorandum presented a short explanation of time management principles, i.e. choosing the best way to use time to achieve maximum results with maximum effectiveness.

It also explained how to list career goals, in order of priority, as a means of using available time more productively.

An immediate follow-up to the letter consisted of a series of meetings between the author and smaller groups of potential volunteers within the project management office. Again, the basic questions were posed. "Will you give time management principles a try? Will you let time management principles become another tool within your working environment?" Using face-to-face meetings, the author talked with 40 members of the project management office. Thirty-three members of the office agreed to participate. Of this latter number, 25 actually completed the entire experiment.

The face-to-face meetings provided the author with an opportunity to discuss the most significant procedural aspects of the experiment with all the participants, and to answer specific questions which a particular individual had. During the meetings, the confidentiality of the experiment was stressed so that all participants would feel free to cooperate to the fullest extent.

The next phase of the experiment consisted of the initial administration of the Time Management Survey (Appendix B) to the experimental group. Thirty-three forms were completed and returned by the group. The survey data were used to establish baselines that indicated how the experi-

mental group allocated their time at the start of the time management experiment.

Next, a list of Time Management Tips and a series of three worksheets (Appendices C, D, E and G) were issued the experimental group. The worksheets were personal in nature and were intended to be retained by the participants. The first worksheet required the participants to list their lifetime goals. The second required them to set their goals in order of their priority (Categories A, B, and C, with A having the highest priority). The final worksheet required the participants to order further their A goals (A-1, A-2, etc.), and to list specific activities which must be completed in order to attain a specific goal.(4:65)

The remaining portion of the experimental period consisted of a daily listing of goal-oriented activities, and the checking-off of those accomplished.

After the experimental group began the initial phase of the time management experiment, a control group was established in a naval support office. This group served as a baseline for comparing the progress of the experimental group. The same Time Management Survey (Appendix B) administered to the experimental group was also given to the control group. No instruction in time management principles was provided to this latter group.

At the conclusion of the three-week test period, the Time Management Survey was readministered to both the experimental and control groups.

A Time Management Questionnaire (Appendix F) was given to the experimental group to allow them to evaluate the benefits of the time management experiment. All the data from both groups were then compiled and analyzed by the author.

Experimental Manipulation. Time Management Tips (Appendix G) were distributed to the experimental group, with the three worksheets (Appendices C,D, and E) on the second day of the experiment. This document contained seven time management techniques that were designed to influence participants to make more effective use of their time. It discussed the most beneficial activities in which one could engage, and gave examples of specific activities.

The overall objective of the Time Management Tips was to impart a sense of organizing, planning and taking affirmative action. The Tips were presented in concert with the three work sheets. Together, they triggered the necessary initial activities of conceptualizing one's goals, listing those goals, and then planning for their accomplishment.

The worksheets were self-explanatory and tailored to emphasize the importance of doing and listing. Persistence and flexibility were emphasized in the Tips. When planning

activities, the participants were apprised of the necessity of allowing for unexpected interruptions in their daily routines -- normal occurrences in the work day. A beneficial outcome of the time management experiment would be an increased ability to minimize future crises by better planning and better time management techniques.

With all of the information and encouragement provided by the Time Management Tips, the participants proceeded with the three-week experiment.

SECTION III

RESULTS

Quantitative Data

The quantitative data consisted of each participant's estimates of the amount of time it took to complete a variety of job activities. The Time Management Survey, which served as the vehicle for collecting these data, was completed by the experimental and control groups at the start and at the conclusion of the experimental period. For the analyses, each group was divided into two categories -- professional and non-professional. The engineers comprised the professional category, while the financial management specialists and secretaries made up the non-professional group.

The original design called for the comparison of the pre- and post-manipulation means of the experimental group, and a similar comparison of pre- and post-manipulation means of the control group. However, because the Time Management Survey was administered on an anonymous basis, and because eight experimental group participants did not complete the survey when it was readministered at the end of the experimental period, the data did not permit a series of t-tests for related groups. Namely, there was no way of identifying each participant's pre- and post-manipulation scores. The following assumptions were made: a) the experimental and control groups were selected by independent random sampling; b) a normal distribution accurately describes the population distribution; c) the difference between population means can be estimated; and d) the population distribution have equal variances.

Therefore, the data were analyzed by a series of t-tests for independent samples. (3:73-74) Specifically, the pre-manipulation means of the experimental and control groups were compared. No strong cause and effect conclusions could be drawn from these analyses; however, it was hoped that trends would be indicated.

Table 1 contains the pre- and post-manipulation means, as well as the t-values associated with each comparison, for the professional category. There were significant t-values associated with four of the nine job activities. The four activities were correspondence preparation, person-to-person communication, meetings (three or more persons), and briefings received.

For "correspondence preparation," for the pre-manipulation means, the difference between the means of the experimental and control groups was significant at the .05 level. For the post-manipulation means, the difference between the experimental and control groups was not significant. This trend was in the predicted direction.

At the start of the experiment, the time allocated to "person-to-person communication" was significantly greater (.01) within the control group. At the end of the experiment, the reduction of person-to-person communication within the control group was greater than that in the experimental group; however, the t-value was not significant. This result was not predicted by the experiment, and is probably due to chance.

TABLE 1
PROFESSIONAL

	Exper.Grp. (\bar{X}_1)	Contr.Grp. (\bar{X}_2)	t
TELEPHONE CALLS SELF-INITIATED			
Pre-expt.	4.64	3.50	.95 (n.s.)
Post-expt.	4.69	4.00	.65 (n.s.)
TELEPHONE CALLS INCOMING			
Pre-expt.	4.59	5.50	-.79 (n.s.)
Post-expt.	4.50	4.00	.38 (n.s.)
CORRESPONDENCE PREPARATION			
Pre-expt.	8.45	3.50	2.39*
Post-expt.	7.63	2.67	1.96 (n.s.)
CORRESPONDENCE READING & PERUSAL			
Pre-expt.	7.55	5.00	1.53 (n.s.)
Post-expt.	7.00	6.67	.16 (n.s.)
PERSON-TO-PERSON COMMUNICATION			
Pre-expt.	7.09	17.75	-3.51**
Post-expt.	6.38	9.33	-1.63 (n.s.)
MEETINGS (3 OR MORE PERSONS)			
Pre-expt.	3.05	5.25	-1.44 (n.s.)
Post-expt.	2.38	6.67	-3.24**
BRIEFINGS RECEIVED			
Pre-expt.	1.05	3.50	-4.30**
Post-expt.	1.06	5.00	-4.12**
BRIEFING PREPARATION & PRESENTATION			
Pre-expt.	1.82	3.00	-1.27 (n.s.)
Post-expt.	2.31	2.33	-.01 (n.s.)
OTHER			
Pre-expt.	2.05	3.75	-.84 (n.s.)
Post-expt.	2.69	-0-	.73 (n.s.)

Key: (n.s.) = not significant

* = .05

** = .01

Before the experimental manipulation for the professional category, the mean of the time allocated for "meetings (three or more persons)" was 3.05 for the experimental group and 5.25 for the control group. The difference between these means was not significant. Post-experimental measures showed that the mean value for the experimental group decreased from 3.05 to 2.38, while the mean value for the control group increased from 5.25 to 6.67. In terms of the post-manipulation means, the difference between the experimental group (2.38) and the control group (6.67) was significant at the .01 level. This was in the predicted direction.

A significant difference of .01 existed between the professional experimental group and the professional control group for the "briefings received" activity at both the start and the finish of the experiment. In both cases, the control group allocated significantly more time for receiving briefings. The experimental group's mean did not change significantly during the experiment. The results were not in the predicted direction.

Table 2 contains the pre- and post-manipulation means, as well as the t-values associated with each comparison, for the non-professional category. Only two of the nine job activities were related to significant t-values. The two activities were "correspondence preparation" and "person-to-person communication."

For "correspondence preparation," for the pre-manipulative means, the difference between the means of the experimental and control groups was significant at the .05 level. The difference between the post-manipulation means was not significant. This trend was in the predicted direction.

In the case of the "person-to-person communication," the difference between the pre-manipulation means of the experimental groups was significant at the .05 level. The control group mean (11.75) was significantly higher than that of the experimental group (5.09) at the start of the experiment. At the end of the experiment, the control group mean (5.00) was less than the experimental group mean (7.11). The t-value was not significant. This result was not predicted, and is probably due to chance.

TABLE 2
NON-PROFESSIONAL

	<u>Exper. Grp. (\bar{X}_1)</u>	<u>Contr. Grp. (\bar{X}_2)</u>	<u>t</u>
TELEPHONE CALLS SELF-INITIATED			
Pre-expt.	2.64	5.25	-1.80 (n.s.)
Post-expt.	4.33	3.00	-.55 (n.s.)
TELEPHONE CALLS INCOMING			
Pre-expt.	6.33	6.50	-.06 (n.s.)
Post-expt.	5.11	4.00	.37 (n.s.)
CORRESPONDENCE PREPARATION			
Pre-expt.	16.45	5.75	2.59*
Post-expt.	8.00	8.33	-.07 (n.s.)
CORRESPONDENCE READING & PERUSAL			
Pre-expt.	5.45	6.50	-.49 (n.s.)
Post-expt.	5.56	9.33	-1.27 (n.s.)
PERSON-TO-PERSON COMMUNICATION			
Pre-expt.	5.09	11.75	-2.32*
Post-expt.	7.11	5.00	.76 (n.s.)
MEETINGS (3 OR MORE PERSONS)			
Pre-expt.	1.09	1.75	-.64 (n.s.)
Post-expt.	1.67	1.67	-0- (n.s.)
BRIEFINGS RECEIVED			
Pre-expt.	.36	.30	-.39 (n.s.)
Post-expt.	1.11	1.67	-.55 (n.s.)
BRIEFING PREPARATION & PRESENTATION			
Pre-expt.	1.36	.25	-.76 (n.s.)
Post-expt.	.22	1.00	-1.26 (n.s.)
OTHER			
Pre-expt.	.36	2.50	-1.54 (n.s.)
Post-expt.	6.78	6.67	.02 (n.s.)

Key: (n.s.) = not significant

* = .05

** = .01

Subjective Data

The experimental group questionnaire (Appendix F) provided subjective data, and was designed to determine the extent to which the experimental group participants benefited from the training experience.

Analysis of the tabulated data indicated that 47% of the professional category (engineers) found that participating in the time management exercise resulted in their doing their jobs more efficiently. The remaining 53% indicated that they performed their jobs with the same efficiency. As seen in Table 3, 22% of the non-professional category indicated that participating in the time management experiment helped them to do their jobs more efficiently.

A total of 79% of the professionals perceived that time management principles were useful on the job or at home. Among the non-professionals, 67% indicated that time management principles were useful on the job or at home.

TABLE 3

EXPERIMENTAL GROUP: QUESTIONNAIRE RESPONSES

Question I: What I learned by participating in the time management study has resulted in my doing my job ...

	Pro. (n=19)	Non-Pro. (n=9)	Total Grp.Avg. (n=28)
more efficiently	47%	22%	40%
about the same	53%	67%	58%
less efficiently	---	---	---
don't know	---	11%	2%

Question II: Has time management information been useful to you on the job, at home, or both?

	Pro. (n=19)	Non-Pro. (n=9)	Total Grp.Avg. (n=28)
both	37%	56%	43%
on the job only	42%	11%	33%
at home only	---	---	---
no, it has not	21%	33%	24%

SECTION IV

DISCUSSION

Analysis of the quantitative data gave an indication of significant trends in several instances. The trend for the "correspondence preparation" was in the predicted direction for both the professional and non-professional categories.

The other activity which indicated a trend in the predicted direction was "meetings (three or more persons)," but this was only for the professional category. All of these positive trends for the experimental group showed a decrease in the mean time spent in each of the significant activities during a work week.

One of the time management tips provided at the outset of the experiment stressed the importance of handling correspondence only once to "keep ahead of your paperwork." Another tip suggested that the participants allow more time for themselves to concentrate on problem areas. This could have resulted in fewer, but more meaningful meetings with three or more persons. This would also support the observed trend in the predicted direction for the professionals.

An overview of the quantitative data analysis indicates the experimental manipulation produced a stronger

trend in the predicted direction among the professionals than among the non-professionals. The subjective data tabulated in Table 3 tend to support this explanation. Forty-seven per cent of the professionals indicated that participating in the time management experiment resulted in their doing their job more efficiently. Among the non-professionals, less than half that number (22%) were of the same opinion.

It should be noted that both the quantitative and the subjective data were based on the perception of the individual participants. No time logs were kept during the experiment. This fact, coupled with the anonymous administration and collection of the data, imposed some limitations on the data analysis. The measures obtained during the pre- and post-manipulation periods, from the experimental group, did not permit the author to use t-tests for related groups.

The anonymous feature of the experiment, however, did result in a greater willingness on the part of the personnel within the project office to participate. It also elicited more honest responses from the participants.

The experiment appears to have resulted in many time management changes on the positive side. Several activities, in both the professional and non-professional

categories, appear to have changed in the predicted direction. The subjective data indicate that the majority of the participants in both categories found the time management techniques to be useful. Conducting this experiment in an actual, real world organization provided the author with a basis for evaluating the effectiveness of a variety of time management techniques.

Shortcomings in the design of the experiment have been noted and should be avoided in future experiments. More emphasis should be placed on the initial orientation of the participants by using prepared examples and visual aids.

Distribution of the surveys should be structured to permit the participant to remain anonymous, as well as to allow the experimenter to determine if the same person completed the surveys before and after the experimental period. Pre- and post-experiment survey forms should be coded, using an identical numerical designation. The forms should then be sealed in envelopes marked for pre- and post-experiment use. The envelopes then should be placed in larger, unmarked envelopes. Participants could then select an unmarked, sealed envelope at random, and only they would know their own numerical code; but the

code itself would key the experimenter to the fact that both surveys were completed by the same person.

The application of time management principles can effectively increase the overall efficiency of the various program management offices of the Department of Defense. The successful implementation of time management techniques depends upon the acceptance by upper management levels. It must be introduced to the employees in such a manner that it becomes the norm within the working environment. To facilitate this attitude, it must be presented clearly and understood fully at the outset. Examples should be provided to all participants so that they can tailor the program to the specific demands of their respective jobs.

Continual checks on progress and the resolution of difficulties in the comprehension of the principles must be provided until the program becomes self-sustaining.

In addition to the organizational benefit of increased productivity, proper implementation of time management principles provides benefits to the individual by making his daily activities more integrated, less onerous and more challenging.

APPENDIX A

From: Frank Halligan

To: Personnel of PMS-395

Date: February 3, 1977

Subject: Brief Explanation of Proposed Time Management
Study Experiment

Time Management, simply stated, is a method of budgeting your time based on your own perception of goals and the means of realizing those goals within your daily working situation. The Time Management principles which will be introduced to you are intended to be used as tools to help you determine your personal career goals together with the goals you feel you should set in order to realize the area of your mission or function within PMS-395.

Since it is first necessary to understand how you are presently budgeting your time, the first survey you will be asked to complete will require you to notice how you think about your job. You will be asked what percentage of your time is spent performing non-essential tasks as opposed to the amount of time spent on essential duties. By non-essential, I mean those activities which you do not perceive as directly effecting your daily or career goals. Essential tasks, conversely, are those which do effect your goals.

A second handout will be worksheets which will require you to set the logical sequence of goals followed by daily schemes of specified activities in an order of priority. In producing these daily schemes for yourself, assign primary goals (A), secondary (B), and least important (C). An example is attached. Remember, that the primary goal is that which is realized by completing the activities under the goal. The activities that are necessary to see that (A) goal to fruition are designated A (1), A (2), and so on. Keep in mind that thoughtful planning will help you choose those activities which will best support your goals. Your daily scheme should be flexible enough to allow for unforeseen high priority tasks that thrust themselves into your day.

APPENDIX A, cont'd.

It may seem heretical, at first, but you may consider (B) goals as items that may be put off -- nice to do, but not absolutely necessary. (C) goals may never even be touched. The purpose of these Time Management principles, then, is for you to show yourself that you can effectively marshall your time to achieve results that matter to yourself and to the rest of the organization.

APPENDIX B

TIME MANAGEMENT SURVEY

Confidentiality of Information: All information you provide will be treated as confidential and will be used for statistical purposes only. All data will be in the form of summary findings only, and it will be impossible to identify information about any particular person.

1. How many hours (on the average, each day) do you believe you should spend in your job? _____ hours.
2. How many hours (on the average, each day) do you actually spend in your job? _____ hours.
3. How many hours (on the average, each day) of work do you take home each night? _____ hours.
4. Estimate how many hours (on the average, each week) you spend on each of the following activities. Please feel free to annotate the list with activities that are omitted.

ACTIVITIES

ESTIMATED AMOUNT OF TIME
(hours per week)

Telephone Calls

Self-initiated _____

Incoming..... _____

Correspondence

Preparation _____

Reading/Perusal _____

Person-to-Person Communication _____

Meetings (3 or more persons) _____

Briefings

Receiving _____

Preparing/Presenting _____

APPENDIX B, cont'd.

Other
.....

5. Each week, on the average, how many hours do you spend away from the office on TDY/trips? _____ hours.

6. Sex: _____ Male _____ Female

7. Occupation:

_____ Engineer

_____ Scientist

_____ Financial/Management Specialist

_____ Secretary

_____ Other (please describe)

Please turn in this completed survey to Frank Halligan.

Thank you for your assistance.

APPENDIX C
LIFETIME GOALS
(Worksheet #1)

Instructions: Within the next five minutes, jot down as many of the goals you would like to accomplish in your lifetime.

My Lifetime Goals are:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

APPENDIX D

PRIORITIZING YOUR LIFETIME GOALS

(worksheet #2)

Instructions: Assume that you have just learned that you will drop dead six months from today. Now, how important are your lifetime goals? List your MOST IMPORTANT goals under the heading, "Category A Goals." List the SECOND MOST IMPORTANT goals under "Category B Goals." Finally, place the LEAST IMPORTANT goals under "Category C Goals."

CATEGORY A GOALS

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

APPENDIX D, cont'd.

CATEGORY B GOALS

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

CATEGORY C GOALS

1. _____

2. _____

3. _____

4. _____

APPENDIX E

PRIORITIZING YOUR "CATEGORY A GOALS"

(Worksheet #3)

Instructions: Look over your "Category A Goals" and prioritize them. The most important of your A goals is your A-1 goal. The second most important is your A-2 goal. Prioritize up to five of your key lifetime goals.

A-1 Goal: _____

1. _____
2. _____
3. _____
4. _____
5. _____

A-2 Goal: _____

1. _____
2. _____
3. _____
4. _____
5. _____

A-3 Goal: _____

1. _____
2. _____
3. _____
4. _____
5. _____

APPENDIX B. cont'd.

A-4 Goal: _____

1. _____

2. _____

3. _____

4. _____

5. _____

A-5 Goal: _____

1. _____

2. _____

3. _____

4. _____

5. _____

Note on Activities: Goals cannot be done. They serve to guide our actions. Therefore, go back to your A Goals and, under each A goal, list the activities you must engage in before you can realize each of your goals.

APPENDIX F
TIME MANAGEMENT QUESTIONNAIRE

Instructions: For each questions, place an (x) by the choice that best expresses your opinion.

1. What I learned by participating in the time management study has resulted in my doing my job

_____ more efficiently
_____ about the same
_____ less efficiently
_____ don't know

2. Has the time management information been useful to you on the job, at home, or both?

_____ both
_____ on the job only
_____ at home only
_____ no, it has not

3. Please list three brief examples of how you used time management principles successfully at work and/or in your personal life.

a. _____
b. _____
c. _____

4. In your opinion, how can we improve the time management program in which you participated?

APPENDIX G

TIME MANAGEMENT TIPS

1. Pareto's Law or the 80/20 Rule.

This rule says, "if you placed a value on each of your activities, you would be able to accomplish 80 per cent of a goal by doing 20 per cent of the activities listed under the goal." As an example, 80 per cent of your workload will be related to 20 per cent of all the people you come in contact with in your work. The key to effective time management is to identify the 20 per cent of your activities that permits you to accomplish 80 per cent of your A Goals.

2. Prepare Your "Things to Do" List.

Use the 80/20 Rule to select the activities you place on your list. At the end of each day, or during the first 15 minutes of each day, jot down five to 10 of the activities you listed under your A Goals (Worksheet #3). Place the list in the middle of your desk so you can see it. The list will serve as an instant reminder of what activities you should be doing. As you complete an activity, cross it off your list. If you don't complete all of the "things to do" by the end of the day, don't worry. Completing the list is not the ultimate goal -- the list is a tool to help you make more effective use of your time. Be sure to prepare a new list every single work day.

3. Keep Ahead of Your Paperwork.

Do your best to follow Lakein's paperwork rule, "Try to handle each piece of paper only once." Unless it's truly impossible, don't put down that piece of paper until you have prepared a response. If you are a secretary, don't drop the completed draft until you have typed it so it's ready to be sent out.

There are times when you won't be able to take immediate and final action on a piece of paper. As an example, you may have to coordinate a letter with Jim and Jill before you can prepare an answer. In this type of situation, the key is to do something -- even if it is a small step or minor activity. Pick up the phone and call Jim and Jill to alert them that you are sending them the paperwork for their inputs.

APPENDIX G. cont'd.

4. Block Off Thinking Time for Yourself.

Each day, set aside some time (30 minutes to one hour) so you can concentrate on the tough problems without being interrupted. Have the secretary tell your callers that you are busy at the moment, but you will return their calls. Encourage your boss to warn you about tasks that will interrupt your "thinking time." Set up "availability hours" so your people and peers don't drop in when you are trying to concentrate on the tough problems.

5. Sharing Your Time.

When several people compete for your time, it's easier to be fair to everyone if you have a set of priorities. If you are a secretary, you probably have experienced the situation where two people in the office need their draft typed up "right away." Since you have only one set of hands, someone will have to wait. To avoid this type of conflict, which tends to take time to resolve, get with your supervisor and see if you can set up a priority system which everyone in the office understands. If you require typing support, you can help out by giving your typist advance notice of the big projects.

6. Remain Flexible.

Don't tie yourself to a rigid schedule that won't accommodate crises. There are many unknowns which will interfere with your well thought-out plans, so bend your schedule when necessary. Once the crisis is over, think about how you could have minimized or eliminated it. The key point is to see how you can profit from the interruption so it doesn't reappear as a crisis sometime in the future.

7. Don't Procrastinate.

Now that you have your A Goals and activities written down -- get started! At times, you will be reluctant to tackle unpleasant activities like disciplining an employee or admitting a dumb mistake to your boss. However, in most cases, doing nothing will only increase the chances of your

APPENDIX G, cont'd.

situation getting worse. If you can't find time to apply the time management tips because you are too busy "putting out fires," you are one who can really benefit from the tips. Don't be like the obstetrician who was depressed over the population explosion, but wasn't able to find time to give his patients birth control information because he was too busy delivering babies. Start attacking the activities on your list!

BIBLIOGRAPHY

1. Brostrom, Theodore Mercer, Major, United States Army, "Effective Time Management in the Project Office." PMC 76-2, ISP Study Project Report.
2. Hersey, Paul and Blanchard, Kenneth H., Management of Organizational Behavior: Utilizing Human Resources, Second Edition. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972.
3. Kirk, Roger E., Experimental Design: Procedures for the Behavioral Sciences. Belmont, California: Brooks/Cole Publishing Co., 1968.
4. Lekein, Alan, How To Get Control of Your Time and Your Life. New York, New York: The New American Library, inc., 1974.
5. Laposata, Joseph Samuel, "A Chronometric Profile: A Project Manager Manages His Time". PMC 74-1, ISP Study Project Report.
6. Morrissey, George L., Management by Objectives and Results. Reading, Massachusetts: Addison-Wesley Publishing Company, 1970.
7. Raia, Anthony P., Managing by Objectives. Glenview, Illinois: Scott, Foresman and Company, 1974.